

In the Matter of:)
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Mitigation of Orbital Debris) IB Docket No. 02-54
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To: The Commission

ORBCOMM LLC (“ORBCOMM”), by its undersigned counsel, hereby submits its comments on the Notice of Proposed Rulemaking (the “NPRM”) in the above-captioned proceeding (the “Rulemaking”).¹ ORBCOMM is the owner and operator of the ORBCOMM non-voice non-geostationary mobile satellite service (“NVNG MSS”) system. As such, ORBCOMM has a highly vested interest in the subject matter of the Rulemaking. As discussed below, the proposals set forth in the NPRM are a reasonable starting point for a joint government-industry effort towards the development of a more refined approach to the mitigation of orbital debris in the commercial satellite sector. However, substantial further study should be undertaken, preferably in the context of a Negotiated Rulemaking, to ensure the adoption of a clear, effective, and practicable policy regime.

¹ *Notice of Proposed Rulemaking*, IB Docket No. 02-54, FCC 02-80 (released March 18, 2002), 67 Fed Reg 22376 (May 3, 2002).

Given the scope of its mandate and its expertise, the Commission is clearly a logical candidate agency to undertake the orchestration of these efforts in conjunction with interested private parties and other concerned governmental entities. The initiation of the Rulemaking to consider the adoption of Commission Rules and policies relating to orbital debris is clearly a positive step in the right direction. Similarly, the NPRM does a laudable job of identifying the issues, drawing upon prior work by NASA and others, and opening this most important public discussion.

It is quite evident, however, that orbital debris mitigation policy, particularly in the context of commercial space, is a *very* complex multi-faceted matter that is still in the embryonic stage of development. In other words, the difficulties lie in the details, the vast majority of which are either not well understood and require further study, or still remain to be investigated *ab initio*.

The focus and scope of the prior work drawn upon in the NPRM simply does not form a sufficient basis to extrapolate an effective, workable policy for commercial communications satellites. This is because the extant work has been based on debris issues relating to launch vehicles, government space missions, and, to some limited extent, geostationary spacecraft. These mission types are different in many material respects from non-geostationary commercial satellite ventures – ORBCOMM’s principal concern. As a result, it is not surprising that very little consideration has been given to date to the interplay of commercial and economic factors in the formulation of orbital debris mitigation policies, particularly for commercial non-geostationary systems.

The mission and cost parameters associated with the ORBCOMM system, or any other continuous coverage commercial non-geostationary constellation, entail the use of multiple platforms in an orbital configuration carefully designed to achieve the requisite coverage, capacity, and system redundancy. Consequently, the kinds of changes to spacecraft orbits,

weights, or fuel loads that might be required under the contemplated rule regime have critical, possibly ‘make-or-break’, implications for the ongoing commercial viability of the ORBCOMM system, and virtually every other commercial non-geostationary constellation. Given the potential for such a profound impact on future deployments, it is eminently clear that further study is required to gain a more adequate understanding this most crucial interplay between debris mitigation efficacy and commercial practicality for commercial satellite systems, particularly non-geostationary constellations.

The NPRM recognizes the corresponding deficiency in the prior work.² Commendably, the Commission’s analysis and the proposed policy responses do attempt to accommodate this dichotomy by, *inter alia*, allowing for the *ad hoc* consideration of commercial factors in the proposed new applicant showing requirements.³ Unfortunately, the lack of an adequate foundation in the prior work results in rather vague open-ended proposed requirements that create more questions than they answer.

Among other things, none of the proposed showing requirements includes a fixed standard from which to judge the adequacy of the responsive applicant submission. No ‘safe harbor’ showing alternatives are proposed. Critical definitional terms such as ‘useful life’ and ‘end-of-life’ are undefined, and clearly subject to interpretation. An adequate foundation for an effective workable regulatory regime is simply not yet sufficiently mature.

It is well known that vague regulation often leads to confusion, arbitrary application, dispute, and delay. Granted, this effect, in and of itself, may be deemed by some as a good way of limiting orbital debris. If no future authorizations can be granted due to endless confusion and dispute under a new rule regime, the debris producing items will never go into orbit. This outcome *might* serve one stated objective of the Rulemaking, but clearly would constitute an unfortunate and avoidable public policy failure.

² See, e.g., NPRM, at ¶¶ 37-38.

³ *Id.*

The real point here is that much work remains to be done before the Commission should determine how to promulgate orbital debris mitigation policies. Furthermore, it does not appear that a traditional paper rulemaking offers the best forum in which to resolve matters. It seems all but inevitable that one round of comments and reply comments will only set the stage for further inquiry and debate. There are simply too many issues on the table, and too many interactions between them, that obviously require further study.

The Commission has at its disposal several procedural mechanisms that might enhance the effectiveness of the Rulemaking, and lead to a more timely conclusion of these proceedings. Among these, a Negotiated Rulemaking or Industry Advisory Committee may be the best solutions. Putting the issues before an expert committee that can examine the issues and debate ideas in real time would likely be a far more speedy and efficient manner of dealing with the subject matter of the instant proceeding.

Accordingly, because of the intricacy of the critical issues raised in the NPRM and the embryonic nature of orbital debris management in the commercial space sector, ORBCOMM urges the Commission initiate a Negotiated Rulemaking in the instant proceeding.

Respectfully submitted,

ORBCOMM LLC

/S/

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